Client's ref.: 89057/2001-11-6 File:0632-5640US/final/Hui

What Is Claimed Is:

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1. A liquid crystal display device comprising: a first substrate:

a second substrate facing the first substrate, a, space for housing liquid crystal molecules being formed between the first substrate and the second substrate;

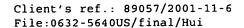
a plurality of liquid crystal molecules formed in the space in a predetermined arrangement;

a first electrode with a first end, formed on the first substrate; and

a second electrode with a second end, formed on the first substrate, a discharge gap being formed between the first end and the second end;

wherein when an external voltage is applied between the first and the second electrodes, electrical field is generated to change the arrangement of the liquid crystal molegules.

- 2. The liquid crystal display device of claim 1, wherein the predetermined arrangement of the liquid crystal molecules is in a vertical alignment, each liquid crystal molecyle has a longitudinal axe, and the longitudinal/axe is substantially perpendicular to the first substrate.
- 3. The liquid crystal display device of claim 1, wherein the predetermined arrangement of the liquid crystal molecules is in a vertical alignment, each liquid



crystal molecule has a longitudinal axe, the longitudinal axe is substantially perpendicular to the second substrate.

- 4. The liquid crystal display device of claim 1, wherein the predetermined arrangement of the liquid crystal molecules is in a horizontal alignment, each liquid crystal molecule has a longitudinal axe, and the longitudinal axe is substantially parallel to the first substrate and perpendicular to a line formed by the first end and the second end.
- 5. The liquid crystal display device of claim 1, wherein the predetermined arrangement of the liquid crystal molecules is in a horizontal alignment, each liquid crystal molecules has a longitudinal axe, and the longitudinal axe is substantially parallel to the second substrate and perpendicular to a line formed between the first end and the second end.
- 6. The liquid crystal display device of claim 1, wherein a line is formed between the first end and the second end, and the first electrode is symmetrical to the second electrode by the line.
 - 7. The liquid crystal display device of claim 1, wherein the display cell comprises a plurality of electrode pairs with an end-to-end arrangement, and the electrode pairs are parallel to each other.